

Claims

What is claimed is:

1. A method for communicating information from a transmitter to a receiver in a communication system, the method comprising the steps of:

5 processing in the transmitter a payload signal and a timing reference signal to generate a digital subscriber line transport signal including timing information associated with the timing reference signal; and

transmitting the transport signal from the transmitter to the receiver, such that the receiver can recover at least a portion of the timing information therefrom.

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2. The method of claim 1 wherein the payload signal is a DS1 payload having a data rate of 1.544 Mbps.

15 3. The method of claim 1 wherein the timing reference signal is a DS1 timing reference signal having a data rate of 1.544 Mbps.

4. The method of claim 1 wherein the timing reference signal includes stratum 1 traceable synchronization information.

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5. The method of claim 1 wherein the digital subscriber line transport signal comprises a sequence of HDSL2 transport frames having a data rate of 1.552 Mbps.

25 6. The method of claim 1 wherein the timing information includes at least one synchronization status message associated with the timing reference signal.

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7. The method of claim 1 wherein the timing reference signal is generated by a building integrated timing supply having GPS capability.

8. The method of claim 1 wherein the timing reference signal comprises a transmit clock generated by an add-drop multiplexer associated with the transmitter.

9. An apparatus for use in communicating information in a communication system, the apparatus comprising:

a transmitter operative to process a payload signal and a timing reference signal to generate a digital subscriber line transport signal including timing information associated with the timing reference signal, and to transmit the transport signal to a receiver, such that the receiver can recover at least a portion of the timing information therefrom.

10. The apparatus of claim 9 wherein the payload signal is a DS1 payload having a data rate of 1.544 Mbps.

11. The apparatus of claim 9 wherein the timing reference signal is a DS1 timing reference signal having a data rate of 1.544 Mbps.

12. The apparatus of claim 9 wherein the timing reference signal includes stratum 1 traceable synchronization information.

20 13. The apparatus of claim 9 wherein the digital subscriber line transport signal comprises a sequence of HDSL2 transport frames having a data rate of 1.552 Mbps.

14. The apparatus of claim 9 wherein the timing information includes at least one synchronization status message associated with the timing reference signal.

25 15. The apparatus of claim 9 further including a building integrated timing supply having an output coupled to a timing reference signal input of the transmitter, and wherein the building integrated timing supply has GPS capability.

16. The apparatus of claim 9 wherein the timing reference signal comprises a transmit clock generated by an add-drop multiplexer associated with the transmitter.

5           17. An apparatus for use in communicating information in a communication system, the apparatus comprising:

a receiver operative to receive a digital subscriber line transport signal including timing information associated with a transmitter of the system, the transport signal being generated in the transmitter by processing a payload signal and a timing reference signal, wherein the receiver is further operative to recover at least a portion of the timing information from the transport signal.

10           18. The apparatus of claim 17 wherein the payload signal is a DS1 payload having a data rate of 1.544 Mbps.

15           19. The apparatus of claim 17 wherein the timing reference signal is a DS1 timing reference signal having a data rate of 1.544 Mbps.

20           20. The apparatus of claim 17 wherein the timing reference signal includes stratum 1 traceable synchronization information.

21. The apparatus of claim 17 wherein the digital subscriber line transport signal comprises a sequence of HDSL2 transport frames having a data rate of 1.552 Mbps.

22. The apparatus of claim 17 wherein the timing information includes at least one synchronization status message associated with the timing reference signal.